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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,959	12/12/2006	Tamotsu Shikamori	9988.234.00	1673
30827 7590 06/07/2010 MCKENNA LONG & ALDRIDGE LLP 1900 K STREET, NW WASHINGTON, DC 20006			EXAMINER KO, JASON Y	
			ART UNIT 1711	PAPER NUMBER
			MAIL DATE 06/07/2010	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/552,959

**Applicant(s)**

SHIKAMORI ET AL.

**Examiner**

JASON Y. KO

**Art Unit**

1711

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 April 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 and 6-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/S&C)
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date 20100430 (2)

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/30/10 has been entered.

### ***Response to Applicant's Amendments***

This Office Action is responsive to the amendment filed on 04/30/10. Claims 1-4 and 6-31 are pending. Claims 1 and 9 have been amended. Claim 5 has been canceled.

### ***Response to Arguments***

The claim rejections under 35 U.S.C. 103(a), have been withdrawn in response to Applicants' amendments filed April 30, 2010.

Examiner acknowledges that the priority documents have been received as requested by the Applicants.

Applicants' arguments are considered moot in light of the withdrawal of claim objections and rejections as stated above.

***Information Disclosure Statement***

The first (non-supplemental) information disclosure statement filed on 4/30/10 has not been considered because the supplemental IDS filed on the same day appears to include the correct intended references.

***Claim Rejections***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Claim Rejections - 35 USC § 103***

- 1. Claims 1-4, 6-7, 10, and 21-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over LEE et al. ("LEE") (US 5,660,063) in view of KAMANO et al. ("KAMANO") (USPN 5,042,276) further in view of KOMORI et al. (JP 2005-253990A).**
- Regarding Claim 1, LEE teaches a drum type washing machine comprising: an outer case (housing 12, Fig. 1); a tub (14, Fig. 1) in the outer case having a drain hole (near reference numeral 30, Fig. 1) at a lowest portion; a drum 16 rotatably mounted in the tub, with a driving motor 24; a filter case 110 mounted at a front portion of the outer case to be exposed to an outside of the washing machine such that a user directly accesses the filter case; a drain pipe 30 connected between the drain hole in the tub and the filter case; a drain filter (200, Fig. 2) disposed between a drain inlet and a drain

outlet in the filter case, wherein the filter case accommodates the drain filter therein; and a drain hose 34 connected to the drain outlet (near where reference numeral 130 points to) in the filter case for draining water from the filter case to an outside of the washing machine (See Fig. 1).

3. LEE appears to fail to explicitly teach an overflow hole at an upper portion of the tub but it is known to use overflow holes in a washing machine. For example, KAMANO teaches an overflow hole 20 for draining overflowing water (See col. 2 lines 36-47). Furthermore, regarding Claims 28-29, KAMANO teaches the use of a first overflow hose (17, Fig. 1) connected between a tub side overflow hole (where reference numeral 5 is or overflow hole 20, Fig. 1) at a position above the drain hole of the tub and the filter case; and a second overflow hose (drain intermediate hose 18, Fig. 1) for draining. Regarding Claims 24 and 29, bellows are commonly used with filters for allowing water to flow through before the water is discharged. Additionally, bellows are very commonly made of elastic material which undergo extension and contraction.

4. Thus, it would have been obvious to one of ordinary skill in the art to modify the washing machine as taught by LEE and have an overflow hole as well as two overflow hoses as taught by KAMANO to use multiple overflow hoses with a filter in the drain pathway for their intended purposes, especially if a filter case is mounted beneath the tub.

5. LEE also fails to explicitly teach a drain valve mounted to the drain pipe, but it would have been obvious to one of ordinary skill in the art to modify the washing machine having a drain system as taught by LEE to have drain valve (as even

KAMANO teaches, drain valve 15, Fig. 1), because it is very well known and obvious to use valves in controlling fluid flow, particularly if the fluid is being manipulated, such as being run through a filter.

6. LEE in view of KAMANO fails to teach a filter case which pivots on a lower end on the outer case, toward the outside of the washing machine. However it is known in the art to provide such an arrangement for the expected advantage of easy access by a user. For example, KOMORI et al. teaches a filter case (where the filter sits and including the flap 101) which pivots on a lower end on the outer case, toward the outside of the washing machine. Although not claimed, it is also considered ordinary skill to integrate the parts, for example, to have the entire casing to be movable instead of the flap 101.

7. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the washing machine as taught by LEE in view of KAMANO and also have a filter case pivot on a lower end of the outer case, for easy access, as taught by KOMORI et al.

8. Regarding Claim 2, it is well known and obvious to form a filter case separately from an outer case of a washing machine, because this allows for easier fixing/removing/replacing of a filter case. Additionally, injection molding of filter cases, such as those made of synthetic resins is well known and obvious. Additionally, LEE teaches a filter case which is separate from the outer case. Thus, Claim 2 is considered unpatentable over LEE in view of KAMANO further in view of KOMORI et al.

9. Regarding Claims 3-4, it would be obvious to one of ordinary skill in the art to mount a filter case on either the middle or a side, because there are limited configurations regarding the position in which a filter case could be mounted, and thus it would be obvious to try and mount the filter case in these positions.

10. Regarding Claim 6, LEE suggests/teaches the lowest point of the drain filter to be at a point higher than a residual water level in a drain path (drain pipe 34, Fig. 1).

Regarding Claim 7, it would be obvious to try and locate the filter at different positions or also modify the horizontally oriented filter of LEE and arrange it vertically, including a configuration in which the filter case has a top end positioned at a height of at least 70cm from a bottom of the washing machine, which would allow for more convenient user access (no need to bend over or crouch to access the filter). Claim 8 is considered unpatentable over LEE in view of KAMANO further in view of KOMORI et al. because LEE already suggests a configuration in which the filter case is mounted such that the top end is positioned so that the filter case is not opened when a door is not opened. This claimed invention would be obvious because it is obvious to provide a door or cover to individual parts for protection or separate access, and LEE already teaches a filter case housing which is a unit that stands alone by itself. Regarding Claim 10, LEE teaches the filter to have meshes, See Fig. 2).

11. Claims 26-27 are unpatentable over LEE in view of KAMANO further in view of KOMORI et al. because it is obvious and well known to affix components (including a filter case) by using a hook and hook holder combination (and the hook would also read on a pull of Claim 9, rejected below), and one of ordinary skill in the art would have

known to mount a filter case using a hook assembly (instead of the rotatably threaded arrangement of LEE to accomplish the same expected result of affixing the filter case to the housing).

12. Claims 21-23 are unpatentable over LEE in view of KAMANO further in view of KOMORI et al. because it is well known and obvious to use elastic members including tension or torsion springs for holding structural components (including filter cases) in place. By mounting using an elastic member, a user may more easily replace the component because the mounted component will be biased towards the user.

13. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the washing machine as taught by LEE in view of KAMANO further in view of KOMORI et al. and have a filter case mounted using elastic members, to mount the filter case in a well known and obvious way and also to be able to more easily replace or access the filter case (because that the filter case of LEE is made separate).

14. Claim 25 is unpatentable over LEE in view of KAMANO further in view of KOMORI et al. because the filter case as taught by LEE has a residual water outlet in the vicinity of the lowest point thereof (piping where reference numeral 130 is pointing to, and it would be obvious to have a residual water drain plug provided for selective opening/closing, because valve-functions are obvious and LEE already teaches a effectively three-way valve 20 and KAMANO teaches a valve 15 which allow for selective opening and closing for controlling draining.



15. Claim 30 is unpatentable over LEE in view of KAMANO further in view of KOMORI et al. because LEE teaches the filter case to be projected forward from the front surface of the outer case (with the front surface being the left side wall of Fig. 1 and the forward being rightward).

16. Claim 31 is unpatentable over LEE in view of KAMANO further in view of KOMORI et al. because it is very well known and obvious to use a drain pump for improved draining of fluid systems.

**17. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over LEE et al. ("LEE") (US 5,660,063) in view of KAMANO et al. ("KAMANO") (USPN 5,042,276) further in view of KOMORI et al. (JP 2005-253990A) further in view of LUTES et al. (US 3,997,292).**

18. LEE in view of KAMANO further in view of KOMORI et al. is relied upon as described above in the rejection of Claim 1. Claims 8-9 are directed to a filter case mounted on an inside of a door, which LEE in view of KAMANO further in view of KOMORI et al. fails to teach explicitly.

19. However, it is known to mount filter cases at different locations including on an inside of a door. For example, LUTES et al. teaches to mount a filter (lint screen 66) on an inside of a door (supported by door frame 44, See col. 4 lines 24-26 and Fig. 1) such that the filter case is not opened (inaccessible) when the door is not opened. Claim 9 is rejected under an analogous rejection to Claims 26-27 as described above with the exception that Claim 9 depends on Claim 8 instead of 1. Additionally, KOMORI et al. motivates one to use handles, as disclosed by 35b, Fig. 2.

20. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the washing machine as taught by LEE in view of KAMANO further in view of KOMORI et al. and rearrange the filter in a known and expected way under a door as taught by LUTES et al. to be able to carry out the intended functions of the filter in a known and expected way. Furthermore, in arranging the filter below a door, the filter is provided with protection which is desirable and even taught by KOMORI et al. which covers the filter with a flap.

**21. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over LEE et al. ("LEE") (US 5,660,063) in view of KAMANO et al. ("KAMANO") (USPN 5,042,276) further in view of KOMORI et al. (JP 2005-253990A) further in view of DANIELS (USPN 5,645,732).**

22. LEE in view of KAMANO further in view of KOMORI et al. is relied upon as described above in the rejection of Claim 10.

23. Claims 11-12 are directed to a drain filter having a hinged bail, which LEE in view of KAMANO further in view of KOMORI et al. fails to teach explicitly.

24. It is also well known to use a hinged bail for taking out a filter. For example, DANIELS teaches the use of a mesh filter which includes a hinged bail for taking out the filter, See Figs. 5-6.

25. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the washing machine having a drain filter as taught by LEE in view of KAMANO further in view of KOMORI et al. and modify the filter to have a hinged

bail as taught by DANIELS, to have a predictable and well known common filter and also for easier handling of the filter.

**26. Claims 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over LEE et al. ("LEE") (US 5,660,063) in view of KAMANO et al. ("KAMANO") (USPN 5,042,276) further in view of KOMORI et al. (JP 2005-253990A) further in view of SURI et al. (USPN 5,702,592).**

27. LEE in view of KAMANO further in view of KOMORI et al. is relied upon as described above in the rejection of Claim 1.

28. Claims 13-18 are directed to filter and filter case detecting means of a washing machine, which LEE in view of KAMANO further in view of KOMORI et al. fails to teach explicitly.

29. It is well known in the art of washing machines to have filter (and other component) detecting means. For example, SURI et al. the use of a filter monitoring device if a filter element is missing in the housing (Regarding Claim 16, see col. 6 lines 36-39). Regarding Claims 17-18, it would be obvious to use different filter detecting means such as optical sensors or microswitches which are well known in the art of monitoring/sensors, especially because SURI et al. teaches the use of distance sensing means of a filter monitoring device using optical sensors (col. 5 lines 62-65) and other contact or non-contact measuring means, which would render a microswitch obvious (see cols. 5-6). Even without the teaching of SURI et al., using a microswitch as a sensor which can be turned on/off would be obvious because it is very well known in the

art. Furthermore, regarding Claims 13-15, it would be obvious to detect a filter case rather than a filter, because both methods solve

**30. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over LEE et al. ("LEE") (US 5,660,063) in view of KAMANO et al. ("KAMANO") (USPN 5,042,276) further in view of KOMORI et al. (JP 2005-253990A) further in view of SURI et al. (USPN 5,702,592), further in view of CHOI (KR 1020010073574A).**

31. LEE in view of KAMANO further in view of KOMORI et al. further in view of SURI et al. is relied upon as described above in the rejection of Claim 13.

32. Claims 19-20 are directed to a filter case lock switch assembly which includes a solenoid and a plunger, which LEE in view of KAMANO further in view of KOMORI et al. further in view of SURI et al. fails to teach explicitly.

33. However it is well known in the art to use filter case lock switch assemblies having a solenoid and a plunger. For example, CHOI teaches to use a door lock switch assembly comprising a switch case, a solenoid and a plunger. See abstract. It would be obvious to one of ordinary skill in the art to apply such a door switch assembly to a filter case lock assembly, because a filter case may be integrated as part of a door or simply as a different, known, and obvious method to mount and secure the filter case.

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the washing machine as taught by LEE in view of KAMANO further in view of KOMORI et al. further in view of SURI et al. and secure the filter case using a

lock switch assembly as taught by CHOI, to be able to accomplish the well known and predictable result of mounting the filter case.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON Y. KO whose telephone number is 571-270-7451. The examiner can normally be reached on Monday-Thursday; 9:30am-7:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MICHAEL BARR can be reached on 571-272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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4 June 2010

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